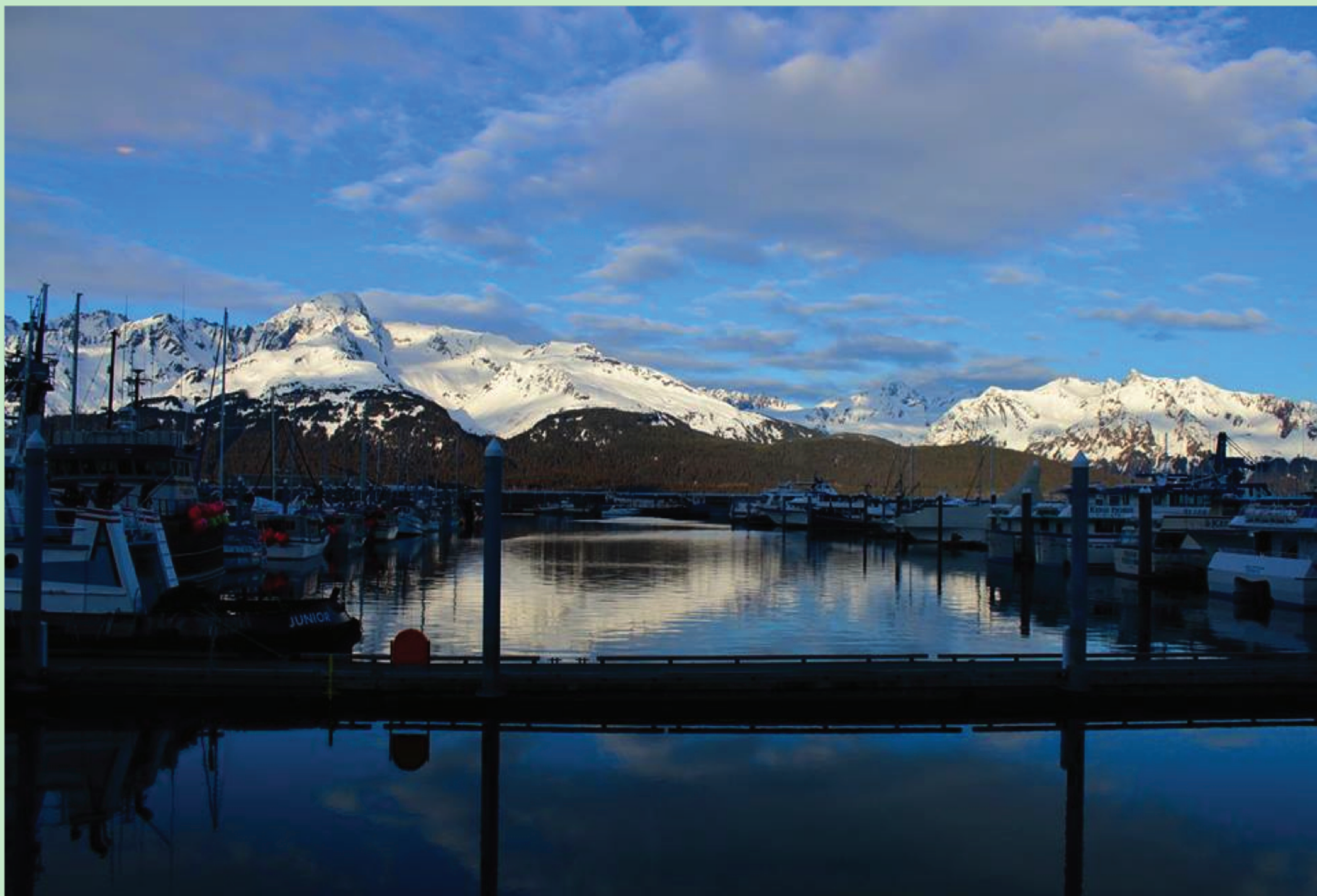


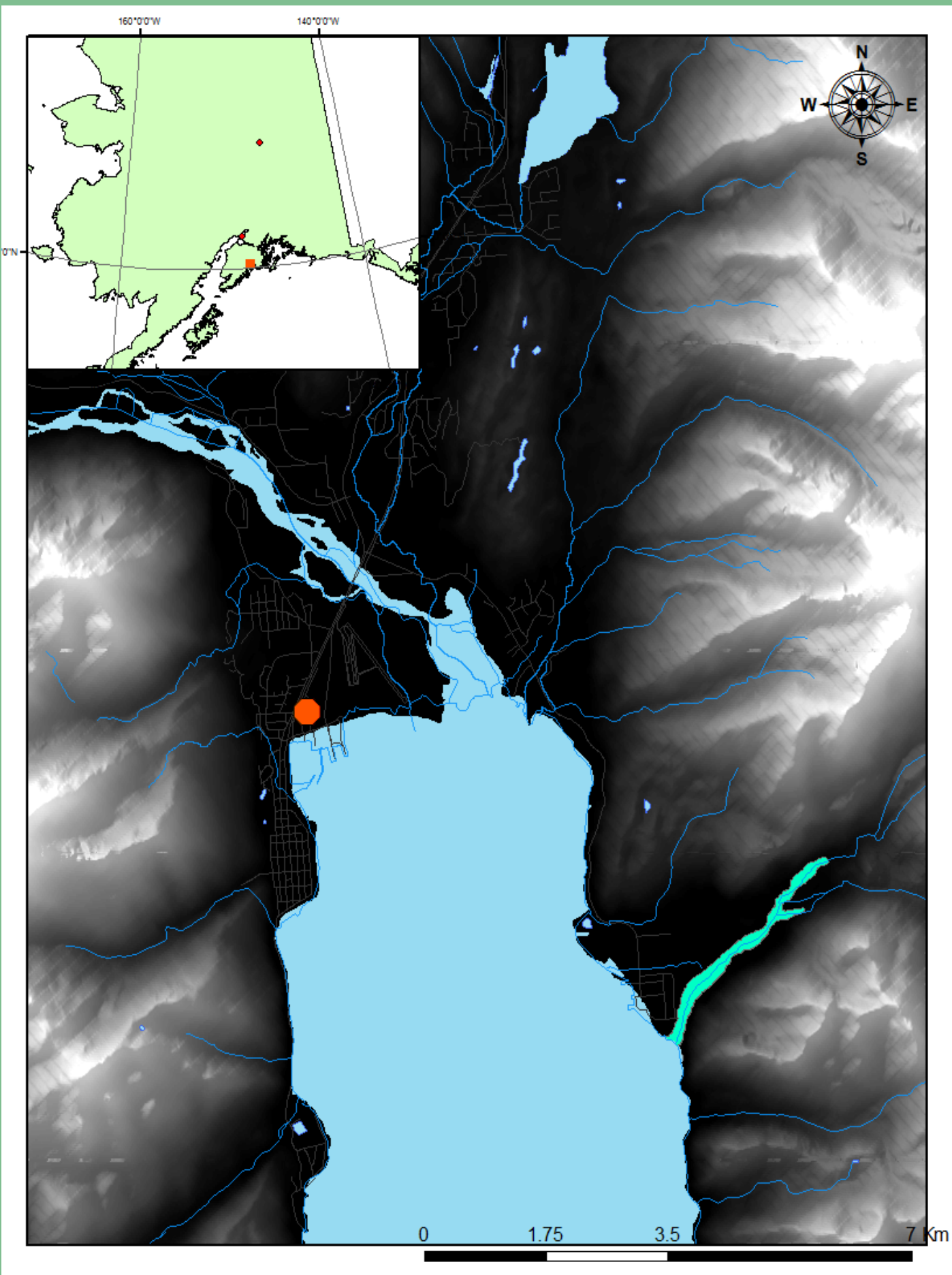
Abstract

This URSA project’s overarching goal was to become more exposed to research while working with a graduate student as a mentor. This was accomplished by completing tasks such as data collection related to Matthew Balazs’ research on slope deformation and hazard analysis in Seward and Whittier, Alaska. Along with those tasks, I learned to write my own research proposals and became more exposed to other students’ research by attending thesis defenses. Lastly, I studied ArcGIS and then later applied it within my own small research project. This project was very important for my student career and has inspired me to pursue more undergraduate research along with helping other undergraduates find research opportunities. None of this would have been possible if it was not for the URSA Graduate Student Mentorship Award that was granted to Mathew Balazs for the summer of 2013.



Key Tasks:

- Wrote my own proposal titled; “Remote Sensing based geomorphological analysis of three selected creeks near Seward, Alaska.”
- Collected data related to research, such as locating geologic maps, collecting climate data, and preforming a literature review.
- Trained to use ArcGIS through one on one instruction, self-taught instruction manuals, and through online classes offered by ESRI.
- Applied GIS training by completing several mini projects, focused around the area of Seward, Alaska including; digitizing areas of mass wasting, classifying ground cover, and conducting a change detection study.
- Became more exposed to others research by regularly attending thesis defenses and scientific talks.
- Had weekly readings of scientific articles, followed by discussions on the relevance to my research, style of the writing, and lessons learned in order to gain insight into my research and develop my own writing style.



As seen in this study area map, the city of Seward is built on an alluvial fan at the head of the fjord, Resurrection Bay. On both sides of Resurrection Bay there are large mountains and ice fields; to the west is Harding ice field and to the east is Sargent ice field. These morphologies play a role in the extensive flooding and mass wasting that Seward has to manage.



Matthew Balazs moved to Alaska in 2006 and earned his B.A. and B.S.’s in Geography from UAF in 2010. He is pursuing a Ph.D in Geology with a focus on natural hazards in remote sensing techniques. Along with his research Matthew is active in mentorship and outreach programs.



Emily Jones is a Junior attending UAF in pursuit of a B.S. in Geology. She has been involved in two undergraduate research projects that have motivated her to put forth the effort to inspire other undergraduate to pursue research opportunities. This year she took the initiative to restart the Geoscience Club, and was elected president.

Acknowledgments

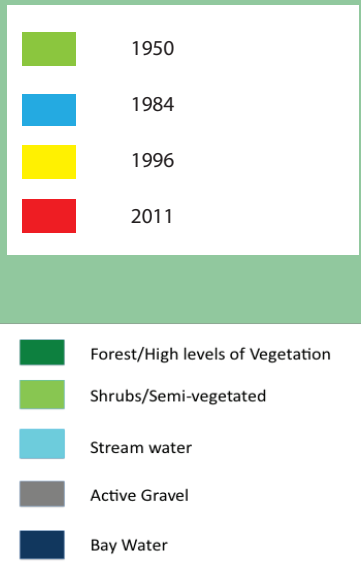
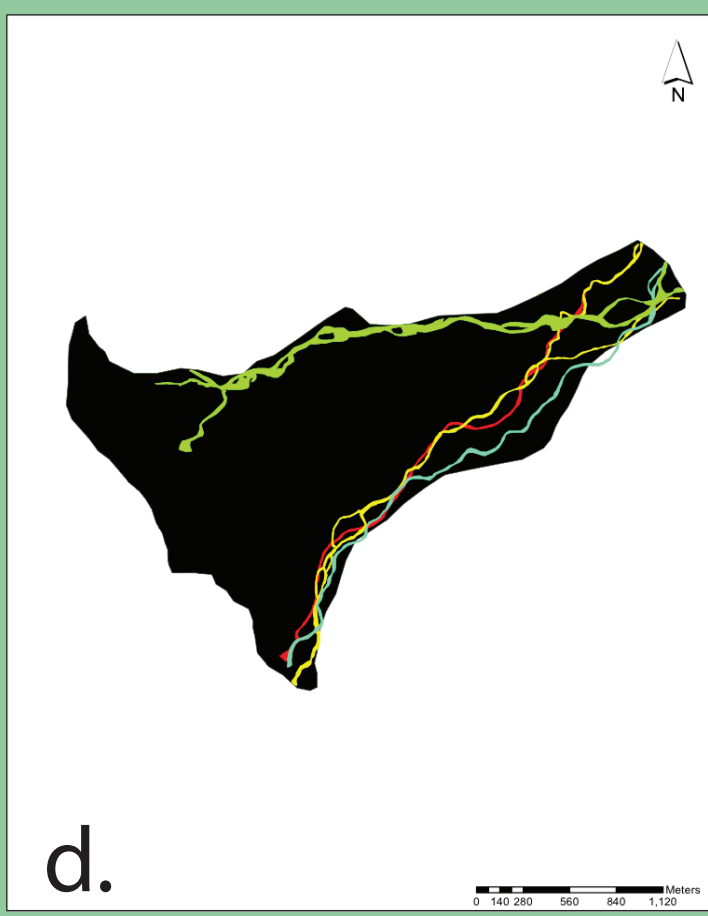
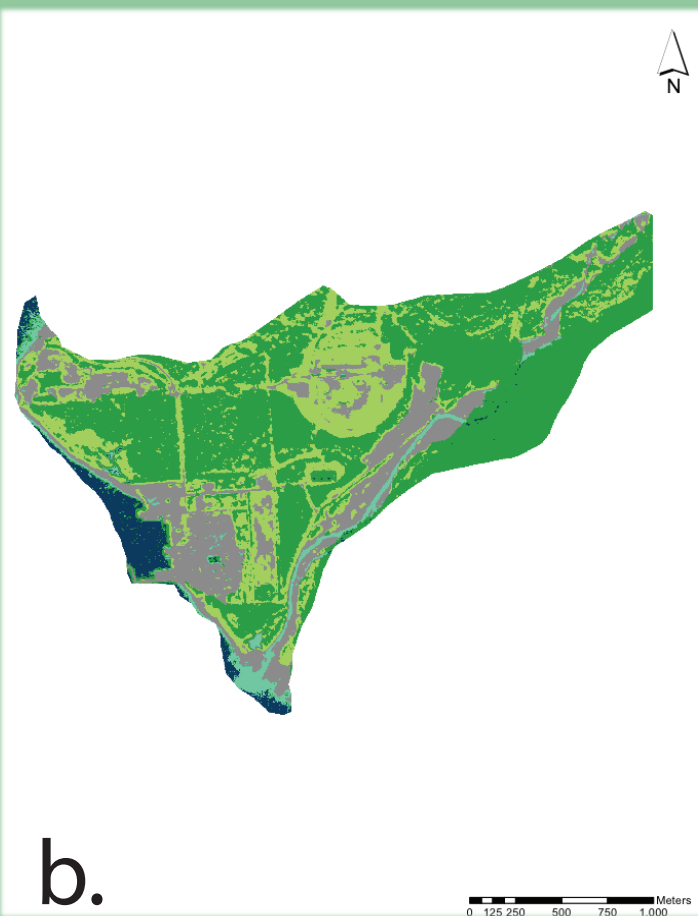
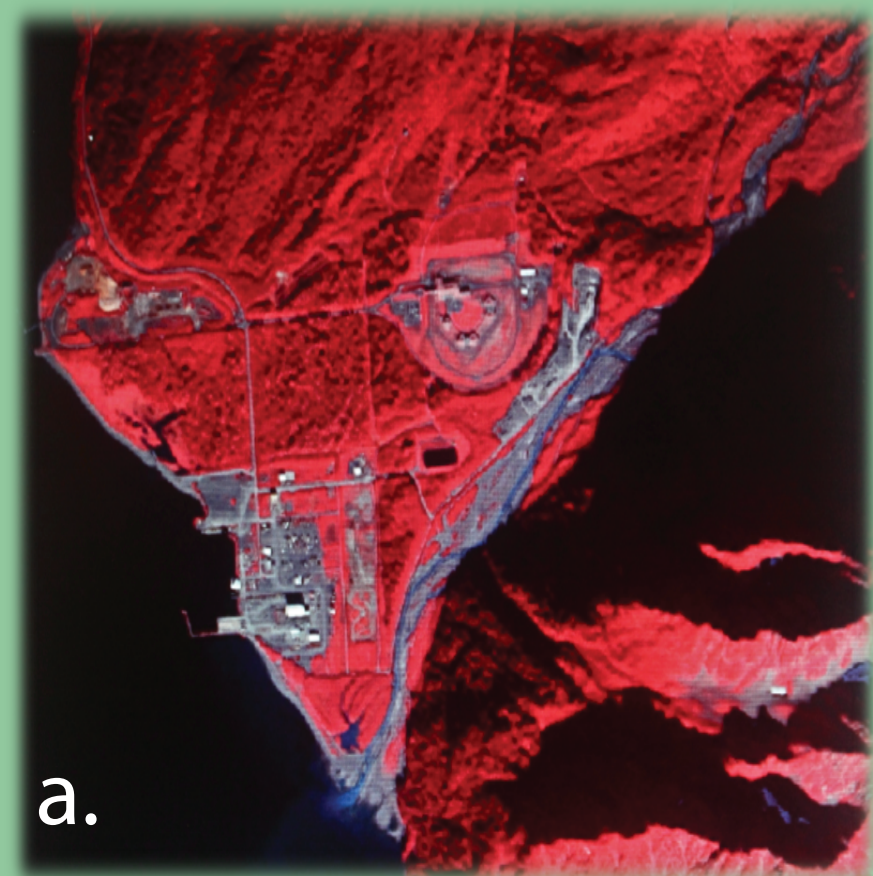
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Mathew Balazs and Anupma Prakash

Mini Project:

Through this proposal writing I started a mini project titled; “Historical Channel Change of Fourth of July Creek in Seward, Alaska”. The purpose of this research project was to use ArcGIS to classify and digitize satellite and airborne optical data, in order to analyze the changes in stream morphology over time.



Images and maps of Fourth of July Creek in Seward, Alaska illustrate the geomorphic change over time. (a.) Color Infra-red (CIR) 2011 Spot image showing the area of Fourth of July creek. (b.) land cover classification of 2011 CIR Spot scene. (c.) land cover classification of 1984 CIR air photo. (d.) Classification of all four years (1950, 1984, 1996 and 2011) analyzed and compiled to show changes of the stream channelization over time.